UNITED STATES PATENT AND TRADEMARK OFFICE

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HICKMAN PALERMO TRUONG & BECKER, LLP
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110

EXAMINER
GORTAYO, DANGELINO N.

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/648,497	IDICULA ET AL.
	Examiner	Art Unit	
	Dangelino N. Gortayo	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>16 February 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-30</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-30</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 August 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>12/18/2006</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-30 are pending in this application.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

10/31/2006 has been entered.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1-5, 12, 14-18, and 27 are rejected under 35 U.S.C. 102(e) as being

anticipated by Fox et al. (US Patent 7,146,399 B2)

As per claim 1, Fox teaches "A method of updating XML-schema-based data to conform to an updated XML schema," (see Abstract and column 5 lines 15-25, transformation of data from a source schema to a target schema)

"the method comprising: (a) based on a first XML schema that indicates a first structure of one or more first XML attributes, (b) and one or more first values that correspond to said one or more first XML attributes, and (c) a correlation between said one or more first values and said one or more first XML attributes, generating first data that conforms to said first structure" (column 13 lines 23-36, column 49 line 61 – column 50 line 14, wherein data conforms with a source XML schema, indicating structure and relationships, and mapping elements and attributes)

"and based on (a) said first data, (b) a set of one or more transformations, and (c) a correlation between one or more of said one or more first values and one or more second XML attributes, generating second data that conforms to a second structure of said one or more second XML attributes;" (Figure 8B, 8C, column 13 lines 23-36, column 15 lines 24-31, column 50 line 14 – column 51 line 15, wherein data is transformed into a target XML schema indicating structure, relationships, and mappings using a transformation)

"wherein said second structure is indicated by a second XML schema that differs from said first XML schema." (column 5 lines 11-14, column 14 lines 5-18, wherein the source XML schema and target XML schema are in different formats requiring a document to be transformed)

As per claim 2, Fox teaches "A method of updating XML-schema-based data to conform to an updated XML schema," (see Abstract and column 5 lines 15-25, transformation of data from a source schema to a target schema)

"the method comprising: based on (a) a first XML schema that indicates a first structure of one or more first XML elements, (b) one or more first values that correspond to said one or more first XML elements, and (c) a correlation between said one or more first values and said one or more first XML elements, generating first data that conforms to said first structure;" (column 13 lines 23-36, column 49 line 61 – column 50 line 14, wherein data conforms with a source XML schema, indicating structure and relationships, and mapping elements and attributes)

"and based on (a) said first data, (b) a set of one or more transformations, and (c) a correlation between one or more of said one or more first values and one or more second XML elements, generating second data that conforms to a second structure of said one or more second XML elements;" (Figure 8B, 8C, column 13 lines 23-36, column 15 lines 24-31, column 50 line 14 – column 51 line 15, wherein data is transformed into a target XML schema indicating structure, relationships, and mappings using a transformation)

"wherein said second structure is indicated by a second XML schema that differs from said first XML schema." (column 5 lines 11-14, column 14 lines 5-18, wherein the source XML schema and target XML schema are in different formats requiring a document to be transformed)

As per claim 3, <u>Fox</u> teaches "said one or more transformations are expressed in Extensible Stylesheet Language (XSL)." (column 15 lines 34-38 and lines 44-49)

As per claim 4, <u>Fox</u> teaches "said one or more first values are stored in one or more database tables." (column 9 lines 14-23, column 11 line 60 – column 12 line 3)

As per claim 5, <u>Fox</u> teaches "based on said first XML schema and one or more second values that correspond to said one or more first XML elements, generating third data that indicates said first structure and a correlation between said one or more second values and said one or more first XML elements;" (Figure 9C, column 17 lines 53-59, column 18 lines 27-36)

"and based on said third data and said set of one or more transformations, generating fourth data that indicates said second structure and a correlation between one or more of said one or more second values and one or more of said one or more second XML elements;" (Figure 9D and column 18 lines 7-14 and lines 38-52)

wherein said one or more second values differ from said one or more first values." (column 17 lines 44-53, column 18 lines 15-25)

As per claim 12, <u>Fox</u> teaches "based on said first XML schema and a third XML schema that indicates a third structure that is based on said first structure, generating a fourth XML schema that indicates said first structure and a correlation between one or more XML elements in said first structure and one or more XML elements in said third structure." (Figure 9B, 9C, column 17 lines 45-59, column 18 lines 7-51)

As to claims 14-18 and 27, <u>Fox</u> is taught as per claims 1-5 and 12 above. Additionally, <u>Fox</u> teaches a tangible computer-readable medium carrying one or more

sequences of instructions which, when executed by one or more processors, causes the

one or more processors to perform the method (column 15 lines 50-56, column 16 lines

44-58)

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 6-11, 13, 19-24, 26, 28-30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Fox et al. (US Patent 7,146,399 B2) in view of Lim et al. (US

Publication 2004/0064825 A1)

As per claim 6, Fox teaches based on a database table that corresponds to an

XML element indicated by said first XML schema, generating a first statement that,

when executed, will cause a database table that corresponds to said XML element to be

created. (column 5 lines 51-58 and column 29 lines 11-25, wherein SQL queries can be

used to create tables).

Fox does not teach a DDL statement from an XML schema.

Lim teaches a DDL statement from an XML schema (paragraph 0049, 0050,

wherein a data model can be either XML Schema or database definition language

(DDL) in a data operability system).

It would have been obvious for one of ordinary skill in the art to combine Fox's

method of converting data from one XML Schema to a different XML Schema using

SQL statements with Lim's ability to use DDL statements when translating data between

different forms. This gives the user the ability to utilize DDL statements, which can be

formed from SQL instructions. The motivation for doing so would be to provide a

standardized method of representing structure and relationships in documents using

schemas (paragraph 0024).

As per claim 7, Fox teaches executing said first DDL statement; and based on

said second data, inserting one or more of said one or more firs values into a database

table that was generated as a result of said executing said first statement (column 36

lines 40-67)

As per claim 8, Fox teaches generating a second statement that, when

executed, causes effects of said first statement to be reversed." (column 16 lines 66 –

column 17 line 8 and column 106 lines 39-46)

As per claim 9, Fox teaches determining whether an error has occurred in

executing said first statement; and in response to determining that said error has

occurred, executing said second statement. (column 106 lines 47-52, column 107 lines

53-67, and Table CXXXII)

As per claim 10, Fox teaches generating one or more rollback statements that,

when executed, cause said inserting to be reversed. (column 108 lines 53-63, column

109 lines 44-56)

As per claim 11, <u>Fox</u> teaches determining whether an error has occurred in said inserting; and in response to determining that said error has occurred, executing said one or more rollback statements. (column 109 line 44 – column 110 line 3)

As per claim 13, <u>Fox</u> teaches "based on an existing database table that corresponds to an XML element indicated by said first XML schema, generating a statement that, when executed, will cause a database table that corresponds to said XML element to be created;" (column 5 lines 51-58 and column 29 lines 11-25, wherein SQL queries can be used to create tables).

after generating said statement, performing steps comprising: deleting said first XML schema; and deleting said existing database table; (column 106 lines 36-52, column 107 lines 53-67, and Table CXXXII)

and after deleting said first XML schema, performing steps comprising: registering said second XML schema with a database system; (column 19 lines 46-67)

executing said statement; and based on said second data, inserting one or more of said one or more first values into a database table that was generated as a result of executing said DDL statement. (column 19 lines 11-25, column 20 lines 10-24)

<u>Fox</u> does not teach a DDL statement from an XML schema.

<u>Lim</u> teaches a DDL statement from an XML schema (paragraph 0049, 0050, wherein a data model can be either XML Schema or database definition language (DDL) in a data operability system).

It would have been obvious for one of ordinary skill in the art to combine Fox's

method of converting data from one XML Schema to a different XML Schema using

SQL statements with Lim's ability to use DDL statements when translating data between

different forms. This gives the user the ability to utilize DDL statements, which can be

formed from SQL instructions. The motivation for doing so would be to provide a

standardized method of representing structure and relationships in documents using

schemas (paragraph 0024).

As to claims 19-24 and 26, Fox is taught as per claims 6-11 and 13 above.

Additionally, Fox teaches a tangible computer-readable medium carrying one or more

sequences of instructions which, when executed by one or more processors, causes the

one or more processors to perform the method (column 15 lines 50-56, column 16 lines

44-58)

As per claim 27, Fox teaches a procedure receiving an identity of an existing

XML schema; (Figure 1 reference 120 and column 9 lines 14-23, wherein a source data

schema is imported)

the procedure receiving an identity of an evolved XML schema that is a version

of the existing XML schema that incorporates one or more modifications; (Figure 1

reference 120 and column 9 lines 14-35, wherein a target data schema is imported, the

source and target schemas related by an ontology model)

the procedure receiving a reference to a transformation set that indicates

changes that, when made to instance documents that conform to the existing XML

schema, will cause the instance documents to conform to the evolved XML schema; (column 5 lines 11-14, column 13 lines 51-56, column 14 lines 5-18, wherein the document with source XML schema is transformed into a document with the related target XML schema)

the procedure reading data for existing XML-schema-dependent instance documents, wherein the data do not contain tags of the existing XML schema; (column 17 lines 44-59, wherein data is read and processed)

based on said data, the procedure generating, for each of the existing XML-schema-dependent instance documents, a corresponding XML-schema-independent instance document that contains the tags of the existing XML schema, thereby generating XML-schema-independent instance documents that conform to the existing XML schema; (column 19 line 46 – column 20 line 9, wherein the data is in a common ontology model)

for each particular XML-schema-independent instance document of the XML-schema-independent instance documents, the procedure applying, to the particular XML-schema-independent instance document, one or more transformations in the transformation set, thereby producing evolved XML-schema-independent instance documents that conform to the evolved XML schema instead of the existing XML schema; (column 20 lines 11-24, wherein a document is transformed from the ontology model to document with the target XML schema)

the procedure instructing the database server to execute one or more statements, to create evolved database structures that are based on the evolved XML

schema; (column 5 lines 51-58 and column 29 lines 11-25, wherein SQL queries can be used to create tables)

and the procedure populating one or more columns of the evolved database structures with content values of column-corresponding XML elements that are contained in the evolved XML-schema-independent instance documents. (column 36 lines 40-67, wherein a database table is populated)

Fox does not teach a DDL statement from an XML schema.

Lim teaches a DDL statement from an XML schema (paragraph 0049, 0050, wherein a data model can be either XML Schema or database definition language (DDL) in a data operability system).

It would have been obvious for one of ordinary skill in the art to combine Fox's method of converting data from one XML Schema to a different XML Schema using SQL statements with Lim's ability to use DDL statements when translating data between different forms. This gives the user the ability to utilize DDL statements, which can be formed from SQL instructions. The motivation for doing so would be to provide a standardized method of representing structure and relationships in documents using schemas (paragraph 0024).

As to claim 28, Fox is taught as per claim 27 above. Additionally, Fox teaches a tangible computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method (column 15 lines 50-56, column 16 lines 44-58)

As per claim 29, <u>Fox</u> teaches receiving an identity of an existing XML schema;

(Figure 1 reference 120 and column 9 lines 14-23, wherein a source data schema is

imported)

receiving an identity of an evolved XML schema that is a version of the existing

XML schema that incorporates one or more modifications; (Figure 1 reference 120 and

column 9 lines 14-35, wherein a target data schema is imported, the source and target

schemas related by an ontology model)

receiving a reference to a transformation set that indicates changes that, when

made to instance documents that conform to the existing XML schema, will cause the

instance documents to conform to the evolved XML schema (column 5 lines 11-14,

column 13 lines 51-56, column 14 lines 5-18, wherein the document with source XML

schema is transformed into a document with the related target XML schema)

reading data for existing XML-schema-dependent instance documents, wherein

the data do not contain tags of the existing XML schema; (column 17 lines 44-59,

wherein data is read and processed)

based on said data, generating, for each of the existing XML-schema-dependent

instance documents, a corresponding XML-schema-independent instance document

that contains the tags of the existing XML schema, thereby generating XML-schema-

independent instance documents that conform to the existing XML schema; (column 19

line 46 – column 20 line 9, wherein the data is in a common ontology model)

for each particular XML-schema-independent instance document of the XML-

schema-independent instance documents, applying, to the particular XML-schema-

independent instance document, one or more transformations in the transformation set,

thereby producing evolved XML-schema-independent instance documents that conform

to the evolved XML schema instead of the existing XML schema; (column 20 lines 11-

24, wherein a document is transformed from the ontology model to document with the

target XML schema)

instructing the database server to execute one or more statements to create

evolved database structures that are based on the evolved XML schema; (column 5

lines 51-58 and column 29 lines 11-25, wherein SQL queries can be used to create

tables)

and populating one or more columns of the evolved database structures with

content values of column-corresponding XML elements that are contained in the

evolved XML-schema-independent instance documents. (column 36 lines 40-67,

wherein a database table is populated)

Fox does not teach a DDL statement from an XML schema.

Lim teaches a DDL statement from an XML schema (paragraph 0049, 0050,

wherein a data model can be either XML Schema or database definition language

(DDL) in a data operability system).

It would have been obvious for one of ordinary skill in the art to combine Fox's

method of converting data from one XML Schema to a different XML Schema using

SQL statements with Lim's ability to use DDL statements when translating data between

different forms. This gives the user the ability to utilize DDL statements, which can be

formed from SQL instructions. The motivation for doing so would be to provide a

standardized method of representing structure and relationships in documents using

schemas (paragraph 0024).

As to claim 30, Fox is taught as per claim 29 above. Additionally, Fox teaches a

tangible computer-readable medium carrying one or more sequences of instructions

which, when executed by one or more processors, causes the one or more processors

to perform the method (column 15 lines 50-56, column 16 lines 44-58)

Response to Arguments

7.   Applicant's arguments, see 11, filed 2/16/2007, with respect to the rejection(s) of

claim(s) 1-26 under 35 USC 102(e) based on US Patent 7,031,956 (Lee) have been

fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of

Fox et al. (US Patent 7,146,399 B2) and Lim et al. (US Publication 2004/0064825 A1).

The rejection is outlined above, including transforming a first XML schema to a second

XML schema, wherein the second XML schema different from the first XML schema

(Fox, column 14 lines 5-18).

8.   As to the Allowable Subject Matter as indicated in claims 27 and 28, this is

withdrawn in view of the amendments to the claims and the newly discovered reference

Lim (US Publication 2004/0064825 A1). The reasons for allowance as indicated in the

Office Action mailed 11/14/2006 indicates that while the limitations indicated allowable

had very few modifications, the allowability of the claims were partly based on DDL

statements disclosed in the previously presented limitations, now cancelled.

Additionally, the new reference Lim is used with the Fox reference to disclose DDL

statements that are executed to create evolved database structures, wherein the SQL

statements of Fox are used to define the XML structure, and DDL statements are used

in the SQL statements that Fox teaches creates evolved database structures.

Therefore, claims 27-28 are rejected, and new claims 29-30 are rejected on the same

ground.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Wachtel (US Patent 6,487,974 B2)

Krishnamurthy et al. (US Patent 7,043,487 B2)

Feinberg et al. (US Patent 7,089,491 B2)

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dangelino N. Gortayo whose telephone number is

(571)272-7204. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dangelino N. Gortayo   Tim T. Vo
Examiner   SPE

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TIM VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100